Exhibit 4

G.P. Allaway et al., U.S. Serial No. 09/888,938, filed June 25, 2001

Pending claims:

2. A method for inhibiting HIV-1 infection of $CD4^+$ cells which comprises contacting $CD4^+$ cells with a non chemokine agent capable of binding to a chemokine receptor in an amount and under conditions such that fusion of HIV-1 to the $CD4^+$ cells is inhibited, thereby inhibiting HIV-1 infection.

7. A non-chemokine agent capable of binding to a chemokine receptor and inhibiting fusion of HIV-1 to $CD4^+$ cells.

11. The non-chemokine agent of claim 10, wherein the polypeptide is an antibody or a portion of an antibody.

20. An agent capable of binding to CXCR4 and inhibiting HIV-1 infection.

32. A pharmaceutical composition comprising an amount of the non-chemokine agent of claim 7 effective to inhibit fusion of HIV-1 to $CD4^+$ cells and a pharmaceutically acceptable carrier.

33. A pharmaceutical composition comprising an amount of the non-chemokine agent of claim 20 effective to inhibit fusion of HIV-1 to $CD4^+$ cells and a pharmaceutically acceptable carrier.

34. A composition of matter capable of binding to a chemokine receptor and inhibiting fusion of HIV-1 to $CD4^+$ cells comprising a non-chemokine agent linked to a ligand capable of binding to a cell surface receptor of the $CD4^+$ cells other than the chemokine receptor such that the binding of the non-chemokine agent to the chemokine

receptor does not inhibit the binding of the ligand to the other receptor.

37. A pharmaceutical composition comprising an amount of the composition of matter of claim 34 effective to inhibit fusion of HIV-1 to $CD4^+$ cells and a pharmaceutically acceptable carrier.

38. A composition of matter capable of binding to the chemokine receptor and inhibiting fusion of HIV-1 to $CD4^+$ cells comprising a non-chemokine agent linked to a compound capable of increasing the *in vivo* half-life of the non-chemokine agent.

40. A pharmaceutical composition comprising an amount of the composition of claim 38 effective to inhibit fusion of HIV-1 to $CD4^+$ cells and a pharmaceutically acceptable carrier.

41. A method for reducing the likelihood of a subject becoming HIV-1 infected which comprises administering to the subject an amount of the pharmaceutical composition of claim effective to inhibit HIV-1 infection of a $CD4^+$ cell, so as to thereby reduce the likelihood of a subject becoming HIV-1 infected.

42. A method for treating HIV-1 infection in a subject which comprises administering to the subject an amount of the pharmaceutical composition of claim 32 effective to inhibit HIV-1 infection of a $CD4^+$ cell, so as to thereby treating HIV-1 infection in a subject.

43. A method for determining whether a non-chemokine agent is capable of inhibiting the fusion of HIV-1 to a $CD4^+$ cell which comprises:

(a) contacting (i) a $CD4^+$ cell, which is labeled with a first dye, with (ii) a cell expressing the HIV 1 envelope glycoprotein on its surface, which is labeled with a second dye, in the presence of an excess of the agent under conditions permitting the fusion of the $CD4^+$ cell to the cell expressing the HIV-1 envelope glycoprotein on its surface in the absence of the agent, the first and second dyes being selected so as to allow resonance energy transfer between the dyes;

(b) exposing the product of step (a) to conditions which would result in resonance energy transfer if fusion has occurred; and

(c) determining whether there is a reduction of resonance energy transfer, when compared with the resonance energy transfer in the absence of the agent, a decrease in transfer indicating that the agent is capable of inhibiting fusion of HIV-1 to $CD4^+$ cells.